

CLAIMS

1. A biosignal intensity measuring method, wherein output signals from a noninvasive sensor, which detects biosignals from a lying subject, are amplified and attenuated with respect to noises other than the biosignals via a signal amplifying/shaping means, and said biosignals are controlled by an automatic gain control (AGC) means to have sizes within a prescribed range, then parameters acquired by signal gains in a control circuit upon carrying out automatic gain control are output as the output signal intensity of said controlled signals to calculate biosignal intensity.
2. The biosignal intensity measuring method according to Claim 1, wherein the signal amplifying/shaping means has an amplifying characteristic that reduces the signal level of heartbeat signals and pulse signals in a bandwidth other than the main bandwidth of the signals.
3. The biosignal intensity measuring method according to Claim 1, wherein the signal amplifying/shaping means has a band-pass filter that reduces the signal level of heartbeat signals and pulse signals in a bandwidth other than the main bandwidth of the signals.
4. The biosignal intensity measuring method according to Claim 1, wherein when the size of output from the noninvasive sensor exceeds a prescribed range for more than a certain time, a judgment is made that a subject is making body motion.
5. A bedding state monitoring method, wherein output signals from a noninvasive sensor, which detects biosignals from a lying subject, are amplified and attenuated with respect to the noises other than the biosignals via a signal amplifying/shaping means, and said biosignals are controlled by an automatic gain control (AGC) means to acquire sizes within a prescribed range, and the parameters acquired by signal gains in a control circuit upon carrying out automatic gain control are calculated as the output signal intensity of said controlled signals, then the calculated signal intensity is used to monitor the bedding state of the subject, such as a state of being in or out of bed, of weakening or stoppage

of biosignals, of making body motion, or the like.

6. The bedding state monitoring method according to Claim 5, wherein the signal amplifying/shaping means has the amplifying characteristic that reduces the signal level of heartbeat signals and pulse signals in a bandwidth other than the main bandwidth of the signals.

7. The bedding state monitoring method according to Claim 5, wherein the signal amplifying/shaping means has the band-pass filter that reduces the signal level of heartbeat signals and pulse signals in a bandwidth other than the main bandwidth of the signals.

8. A bedding state monitoring device comprising:
a noninvasive sensor that detects biosignals from and body motion of a lying subject; a signal amplifying/shaping means that attenuates the noises other than the biosignals included in the output signals from the noninvasive sensor; a non-bedding detecting sensor for confirming the subject's being out of bed; the automatic gain control (AGC) means that controls signals given by eliminating environmental noises from the output signals from the noninvasive sensor via said environmental filter so as to have sizes within a prescribed range; a signal intensity calculating means that calculates the parameters acquired by signal gains in the control circuit upon carrying out automatic gain control as the output signal intensity of said controlled signals; and a bedding state judging means that makes a judgment on the subject's being in or out of bed, weakening or stoppage of biosignals, or the like, using a plurality of the intensity signals or parameters calculated from a plurality of the intensity signals.

9. The bedding state monitoring device according to Claim 8, wherein the signal amplifying/shaping means has the amplifying characteristic that reduces the intensity level of heartbeat signals and pulse signals in a bandwidth other than the main bandwidth of the signals.

10. The bedding state monitoring device according to Claim 8, wherein the signal amplifying/shaping means has the band-pass filter that reduces the intensity level of heartbeat signals and pulse signals in a bandwidth other than the main bandwidth of the

signals.

11. The bedding state monitoring device according to Claim 8, said device comprising a body motion detecting means that detects body motion from the output of the noninvasive sensor, wherein the bedding state judging means monitors the occurrence of the body motion using output from the body motion detecting means.

12. The bedding state monitoring device according to Claim 11, wherein the body motion detecting means judges that a subject is making body motion when the size of output from the noninvasive sensor exceeds a prescribed range for more than a certain time.

13. The bedding state monitoring device according to Claim 8, wherein the noninvasive sensor comprises a capacitor microphone for detecting micropressure, and a hollow, elastic tube or a hollow, elastic tube with an inserted core wire thinner than a hollowed part of the tube, the tube being connected to the microphone.

14. The bedding state monitoring device according to Claim 8, wherein the non-bedding detecting sensor is a sensor for detecting weight.

15. The bedding state monitoring device according to Claim 8, wherein the non-bedding detecting sensor is an infrared sensor.